

N274. Scaffolding Management for Waste and Dose Minimization

Scaffolding is an integral part of most power plant outages and is required to provide access to areas that are not at convenient elevations for maintenance activities. The use of scaffolding in support modification and preventative maintenance activities for nuclear power plant can result in a number of burdens to site resources. Plants can choose either own scaffolding or rent when needed.

If it is rented, then health physics or decon is required to clean the scaffolding prior to returning it to the rental agency. If the scaffolding cannot be cleaned, then it must be bought and stored in a controlled area storage or disposed of as radwaste. This required capital expenditure to purchase the scaffolding, on top of the rental fees paid, when it would have been cheaper to have bought the scaffolding in the first place. Controlled area storage is not easily available at most plant, and the costs of radwaste disposal have skyrocketed.

If a plant decides to own scaffolding, the same inventory management, decontamination, storage, and radwaste issues must be dealt with. In addition, both rental and ownership options result in dose management issues that should not be overlooked.

In response to similar situations at numerous other nuclear plants, the concept of scaffolding management for contaminated materials was introduced by Quadrex in 1986. The program creates a pool of scaffolding which can be accessed by utilities. The 20-acre Recycle Center site in Oak Ridge, Tennessee, includes substantial areas dedicated to managing over 1.2 million pounds of scaffolding. Thirty-seven nuclear plants are regular users of or have used the scaffolding management program. The economies of scale associated with this large program allow for quick turnaround and customization to support station needs. Utilities can order only what they need, and the scaffolding arrives containerized and segregated in order to best support erection sequencing. Once the outage is over, materials are rapidly removed and loaded into the vans in no particular order and shipped to the vendor. On arrival, they are off-loaded, inspected, decontaminated, refurbished, coated, color-coded by length, and prepared for the next use. All knuckle-tightening bolts are manually run-out and thread-chased to ensure rapid erection. Poles are shipped on roller carts for ease of moving to erection areas.

At a recent outage, the utility tracked erection time and personnel exposure. Compared to in-house scaffolding management, this program allowed scaffolding erection in half the time and at 20 percent savings in dose.

Based on this program, the cost associated with health physics and security monitoring of controlled scaffold storage have been eliminated, and the capital costs associated with purchasing new scaffolding has been eliminated. In addition, radwaste volumes and personnel exposure were greatly reduced.

Taken from, "Scaffolding Management for Waste and Dose Minimization," by Frank J. Svetkovich and Michael S. McGough, Nuclear Plant Journal, September-October 1993, pp.54-56. For further information, contact Michael S. McGough, 904/373-6066, Quadrex Corp., 1940 NW 76th Place, Gainesville, FL 32606.